
a p p e n d i x D

Tables in U.S.
Measures

a p p e n d i x D

Tables in U.S. Measures

table 1-2

Area

(Number of square miles)

	Canada	Mexico	United States
Total area	3,849,674	839,145	3,717,813
Land area	3,558,097	756,470	3,536,294
Water area	291,577	82,675	181,519

SOURCES

Canada

Natural Resources Canada. GeoAccess Division. (Ottawa, Ont.: 1998).

Mexico

Instituto Nacional de Estadística, Geografía e Informática. Dirección General de Geografía. (Aguascalientes, Ags.: 1998).

United States

U.S. Department of Commerce. U.S. Census Bureau. *Statistical Abstract of the United States 1998*. (Washington, DC: 1998).

t a b l e 3-3

Motor Vehicle Fatality and Injury Rates

	Canada			Mexico			United States		
	1990	1995	1996	1990	1995	1996	1990	1995	1996
Road motor vehicle fatalities, total	3,963	3,351	3,091	10,201	9,043	9,305	44,599	41,817	42,065
Road motor vehicle injuries, total	262,680	241,935	230,890	93,325	121,638	115,274	3,231,000	3,465,000	3,511,000
Road vehicle-miles, total (billions)	N	^e 197.0	N	N	N	N	2,144	2,423	2,482
Road motor vehicles, total (millions)	17.0	^r 17.0	^r 17.2	10.2	12.0	12.4	193.1	205.4	210.2
Rates per 100 million vehicle-miles									
Fatality	N	^e 1.7	N	N	N	N	2.1	1.7	1.7
Injury	N	123	N	N	N	N	151	143	141
Rates per 10,000 road motor vehicles									
Fatality	2.3	2.0	1.8	10.0	7.5	7.5	2.3	2.0	2.0
Injury	155	142	134	91	101	93	167	169	167

KEY: e = Data are estimated. N = Data are nonexistent. r = Data are revised.

SOURCES

Canada

Road vehicle-kilometers: Transport Canada. Minister of Public Works and Government Services. *Transportation in Canada 1997—Annual Report*. (Ottawa, Ont.: 1998).

Road motor vehicles: Statistics Canada. *Road Motor Vehicles Registrations, Catalogue No. 53-219-XPB*. (Ottawa, Ont.: various years).

Road fatalities and injuries: Transport Canada. Road Safety and Motor Vehicle Regulation. *Traffic Accident Information Database*. Special tabulation. (Ottawa, Ont.: 1998).

Mexico

Road motor vehicles: Instituto Nacional de Estadística, Geografía e Informática based on figures from Departamento del Distrito Federal, Dirección General de Autotransporte Urbano; state finance office and state police and traffic offices. (Mexico City, D.F.: various years).

Road fatalities and injuries: Instituto Nacional de Estadística, Geografía e Informática. Dirección de Estadísticas Económicas, based on data collected by the Procuraduría General de Justicia del Distrito Federal and the Direcciones de Seguridad Pública y Vialidad or their equivalent agencies at state and local levels. (Mexico City, D.F.: various years).

Secretaría de Comunicaciones y Transportes. Dirección General de Policía Federal de Caminos y Puertos. (Mexico City, D.F.: various years).

United States

U.S. Department of Transportation. Bureau of Transportation Statistics. *National Transportation Statistics 1998* and *National Transportation Statistics 1999*. (Washington, DC: 1998 and 1999).

t a b l e 4-1

Energy Consumption by the Transportation Sector

Quads (quadrillion Btu)

	Canada			Mexico			United States		
	1990	1995	1996	1990	1995	1996	1990	1995	1996
Energy consumption, total ^a	7.43	8.14	8.51	4.89	5.20	5.59	84.12	90.86	93.87
Transportation consumption, total ^b	1.93	2.15	2.20	1.21	1.33	1.36	22.54	24.07	24.66
Transportation's share of total energy consumption (percent)	26.0	26.4	25.9	24.8	25.5	24.4	26.8	26.5	26.3
Fossil fuels, total ^c	1.92	2.14	2.19	N	N	N	22.49	24.03	24.62
Natural gas	0.13	0.23	0.24	N	N	N	0.68	0.72	0.73
Trillion cubic feet	0.12	0.22	0.23	N	N	N	0.66	0.70	0.71
Petroleum	1.79	1.91	1.95	1.20	1.33	1.36	21.81	23.31	23.89
Million barrels	329	351	359	211	243	249	4,004	4,281	4,385
Electricity ^b	^b 0.011	0.013	0.013	0.003	0.003	0.004	0.014	0.013	0.013

^aFor all three countries, energy consumption, total **includes** electrical system energy losses.

^bFor all three countries, transportation consumption, total and electricity do **not** include electrical system energy losses.

^cCoal is not included in this table, because all three countries use negligible amounts of coal for transportation.

KEY: N = Data are nonexistent.

NOTES

Canada

Energy consumption, total: Includes renewable energy.

Transportation consumption, total: Includes fuel used in fisheries and in private trucking, but excludes fuel consumption by public administrations.

Mexico

Natural gas: Data are nonexistent, but natural gas consumption in Mexico is estimated to be quite small.

United States

Energy consumption, total: Includes renewable energy.

Transportation consumption, total: Total is greater than the sum of the components, because electrical system energy losses are not listed. Fisheries are not included, but fuel consumption by public administrations is included.

SOURCES

Canada

Statistics Canada. *Quarterly Report on Energy Supply-Demand in Canada, Catalogue No. 57-003-XPB*. (Ottawa, Ont.: various editions).

Mexico

Secretaría de Energía. *Balance Nacional, Energía*. 1996. (Mexico City, D.F.: 1998).

United States

U.S. Department of Energy. Energy Information Agency. *Annual Energy Review*, 1997 and *Monthly Energy Review*, August 1998. (Washington, DC: 1998).

t a b l e 4-2

Energy Consumption by Mode of Transportation

Trillion Btu (10 to the 12th Btu)

	Canada			Mexico			United States		
	1990	1995	1996	1990	1995	1996	1990	1995	1996
Total	1,931.4	2,150.7	2,203.8	1,208.8	1,326.1	1,360.3	22,540	24,070	24,660
Air	175.5	175.4	195.1	69.8	90.4	88.5	1,811	1,836	1,891
Jet fuel	170.3	171.5	191.3	68.1	86.8	87.4	1,769	1,803	1,857
Aviation gasoline	5.2	3.9	3.7	1.6	3.7	1.1	42	33	34
Road	1,416.4	1,546.2	1,574.3	1,087.1	1,188.1	1,221.8	N	18,268	18,726
Gasoline	1,114.6	1,150.4	1,165.3	794.2	880.4	895.1	13,691	14,633	14,939
Diesel	277.2	364.4	376.7	278.5	290.0	308.5	2,900	3,600	3,750
Other fuels	24.6	31.4	32.4	14.4	17.6	18.2	N	35	37
Pipeline	135.0	232.5	241.2	U	U	U	680	722	734
Natural gas	126.1	220.7	228.9	U	U	U	680	722	734
Electricity	8.2	10.4	10.2	U	U	U	U	U	U
Diesel	0.6	1.3	2.1	U	U	U	U	U	U
Rail	84.8	76.7	75.0	25.2	21.4	23.4	444	493	507
Distillate/diesel fuel	84.8	76.7	75.0	25.2	21.4	23.4	443	492	506
Freight rail	82.6	74.7	73.0	U	U	U	432	483	496
Intercity passenger	2.2	2.0	2.0	U	U	U	11	9	10
Electricity									
Intercity passenger	NS	NS	NS	U	U	U	1	1	1
Transit	18.0	23.3	22.3	N	N	N	N	121	119
Electricity	3.0	2.8	2.9	2.6	3.3	3.4	17	17	17
Motor fuels									
Gasoline	0.5	0.4	NS	N	N	N	4	8	8
Diesel	12.1	12.7	12.0	N	N	N	90	94	92
Compressed natural gas	2.5	7.4	7.4	N	N	N	N	2	2
Water transport	101.7	96.7	96.0	N	N	N	1,396	1,338	1,323
Residual fuel oil	57.0	52.8	52.4	19.6	1.3	1.5	947	881	853
Distillate/diesel fuel oil	44.7	43.1	43.0	4.5	21.5	21.7	286	324	346
Gasoline	NS	0.8	0.6	N	N	N	163	133	124

KEY: N = Data are nonexistent. NS = Not significant. U = Data are unavailable.

NOTES

All Countries

Transportation energy consumption: Electrical systems energy losses are excluded from the overall total as well as individual modal totals.

Transit: Canadian and U.S. data refer to **all transit**, including local transit buses and other road transit vehicles, which also are reported under road. Some ferryboats also are included.

Mexico

Road, other fuels: Refers to liquified petroleum gas.

Road, gasoline, diesel, other fuels: Includes data on transit, motor fuels, and no breakdown is possible.

Rail, distillate/diesel fuel: Includes passenger and cargo services, and no breakdown is possible.

Transit, motor fuels: Data for subcategories cannot be separately identified for transit. Instead they are included in the fuel categories for road (gasoline, diesel and other fuels).

Water transport, residual fuel oil, distillate/diesel fuel oil: In 1991, vessel fuel usage began to change. Diesel substituted for residual fuel oil.

United States

Total: The total differs from the sum of the individual modes for reasons discussed in Appendix B.

Energy Consumption by Mode of Transportation—Continued

SOURCES

Canada

All modes except transit rail: Statistics Canada. *Quarterly Report on Energy Supply-Demand in Canada, Catalogue No. 57-003-XPB*. (Ottawa, Ont.: various quarterly editions).

Natural Resources Canada. *Canada's Energy Outlook 1996-2020*. (Ottawa, Ont.: 1998).

Transit rail: Statistics Canada. *Passenger Bus and Urban Transit Statistics, Catalogue No. 53-215-XPB*. (Ottawa, Ont.: various years).

Mexico

Secretaría de Energía. *Balance Nacional, Energía. 1996*. (Mexico City, D.F.: 1998).

Comisión Nacional para el Ahorro de Energía. Private communication. (Mexico City, D.F.: 1998).

United States

Total: U.S. Department of Energy. Energy Information Administration. *Annual Energy Review, 1997*. (Washington, DC: 1998).

Air: U.S. Department of Transportation. Bureau of Transportation Statistics. Office of Airline Information. Private Communication. (Washington, DC: 1998).

U.S. Department of Transportation. Federal Aviation Administration. *General Aviation and Avionics Survey*. (Washington, DC: various years).

Road: U.S. Department of Transportation. Federal Highway Administration. *Highway Statistics, Summary to 1995*. (Washington, DC: 1996).

U.S. Department of Transportation. Federal Highway Administration. *Highway Statistics, 1996*. (Washington, DC: 1997).

U.S. Department of Energy. Energy Information Administration. *Alternatives to Traditional Transportation Fuels, 1996*. (Washington, DC: 1997).

Pipeline: U.S. Department of Energy. *Natural Gas Annual 1996*. (Washington, DC: 1997).

Rail: Association of American Railroads. *Railroad Facts, 1997 Edition*. (Washington, DC: 1997).

National Railroad Passenger Corp. State and Local Affairs Department. Private Communication. (Washington, DC: 1998).

National Railroad Passenger Corp. Director of Fuel Management. Private Communication. (Washington, DC: 1998).

American Public Transit Association. *Transit Fact Book*. (Washington, DC: various years).

American Public Transit Association. Private Communication. (Washington, DC: 1998).

Water transport: U.S. Department of Energy. Energy Information Administration. *Fuel Oil and Kerosene Sales*. (Washington, DC: various years).

U.S. Department of Transportation. Federal Highway Administration. *Highway Statistics, 1996*. (Washington, DC: 1997).

t a b l e 4-3

Estimated Consumption of Alternative and Replacement Fuels for Road Motor Vehicles

(Thousand gasoline-equivalent gallons)

	Canada			Mexico			United States		
	1990	1995	1996	1990	1995	1996	1992 ^{a3}	1995	1996
Fuel consumption, total^a	11,180,864	12,198,778	12,415,527	N	N	N	134,231,000	144,776,000	148,182,000
Alternative fuels, total	217,776	311,582	319,844	N	N	N	229,631	277,507	297,231
Liquefied petroleum gases (LPG)	197,664	252,244	260,277	N	N	N	208,142	232,701	239,158
Compressed natural gas (CNG)	20,106	59,259	59,488	N	N	N	16,823	35,162	46,923
Liquefied natural gas (LNG)	0	0	0	N	N	N	585	2,759	3,247
Methanol, 85 percent (M85)	5	80	80	N	N	N	1,069	2,887	3,390
Methanol, neat (M100)	0	0	0	N	N	N	2,547	2,150	347
Ethanol, 85 percent (E85)	0	0	0	N	N	N	21	190	694
Ethanol, 95 percent (E95)	0	0	0	N	N	N	85	995	2,699
Electricity	NS	NS	NS	N	N	N	359	663	773
Oxygenates									
Methyl tertiary butyl ether (MTBE)	NS	NS	NS	N	N	N	1,175,000	2,691,200	2,749,700
Ethanol in gasohol	2,600	10,600	10,600	N	N	N	701,000	910,700	660,200
Traditional fuels									
Gasoline	8,962,970	9,250,671	9,370,584	N	N	N	110,135,000	115,943,000	117,783,000
Diesel	1,997,477	2,625,957	2,714,531	N	N	N	23,866,000	28,555,040	30,101,430

^aU.S. data for 1990 are not available. Nearest data year is 1992.

KEY: N = Data are nonexistent. NS = Not significant.

NOTES

Mexico

Alternative fuels, liquefied petroleum gases: In Table 4-2 under road, other fuels, an estimation of fuel consumption in petajoules is shown.

SOURCES

Canada

Natural Resources Canada. Office of Energy Efficiency. (Ottawa, Ont.: 1998).

United States

U.S. Department of Energy. Energy Information Administration. *Alternatives to Traditional Transportation Fuels, 1996*. (Washington, DC: 1997).

t a b l e 4-4

Average Price^a of Fossil Fuel to End-Users

(Current U.S. cents per gallon)

	Canada			Mexico			United States		
	1990	1995	1996	1990	1995	1996	1990	1995	1996
Motor vehicle fuel									
Gasoline									
Leaded	NA	NA	NA	95.5	127.3	139.4	114.9	NA	NA
Unleaded premium	204.4	178.7	186.8	NA	NA	158.4	134.9	133.6	141.3
Unleaded regular	189.5	152.8	161.0	134.6	132.1	143.4	116.4	114.7	123.1
Average over all types									
Price with taxes	U	U	U	U	U	U	121.7	120.5	128.8
Taxes	74.3	73.6	75.3	U	U	U	24.6	36.9	37.0
Diesel									
Price with taxes	163.2	116.4	119.9	81.4	96.7	106.6	U	110.9	123.5
Taxes	58.1	46.3	46.6	U	U	U	31.1	43.4	43.3
Aviation fuel									
Gasoline	159.4	118.4	119.7	134.6	132.1	143.4	112.0	100.5	111.6
Jet fuel	83.5	53.3	58.4	95.3	67.4	88.6	76.7	54.6	64.8
Rail fuel									
Diesel	89.0	59.3	64.8	81.4	96.7	106.6	69.2	60.0	67.7
Water transport									
Combined fuels	54.4	38.1	43.8	30.7	24.8	49.8	U	38	42

^aUnless otherwise stated in the country notes below, prices include the cost of the fuel and taxes. Taxes are given separately in this table only for all types of motor vehicle gasoline and for motor vehicle diesel fuel. See Appendix B for information on fuel taxes in each country.

KEY: NA = Not applicable. U = Data are unavailable.

NOTES

Mexico

Data refer to sales price to the public as of December 31 of each year.

United States

Motor vehicle fuel taxes: Sales weighted average of federal and state fuel taxes only. Does not include state sales taxes. If these were included, they would raise the average tax in 1996 by roughly half a cent per liter for both gasoline and diesel. Note that the motor vehicle fuel prices do include state sales taxes.

Aviation fuel: Does not include any taxes. Price of jet fuel is that paid by the large certified air carriers, which are defined in Appendix B.

Rail fuel: Price includes federal fuel taxes only; no state taxes are included.

t a b l e 4-4**Average Price^a of Fossil Fuel to End-Users—Continued****SOURCES****Canada**

Natural Resources Canada. Office of Energy Efficiency. (Ottawa, Ont.: 1998).

Mexico

Petróleos Mexicanos. PEMEX-Refinación. *Anuario Estadístico, 1998*. (Mexico City, D.F.: 1999).

Petróleos Mexicanos. PEMEX-Refinación. Subgerencia de Planeación (Mexico City, D.F.:1999)

United States

Motor vehicle fuel: U.S. Department of Energy. Energy Information Administration. *Annual Energy Review 1997*. (Washington, DC: 1998).

U.S. Department of Transportation. Federal Highway Administration. *Highway Statistics, Summary to 1995*. (Washington, DC: 1996).

U.S. Department of Transportation. Federal Highway Administration. *Highway Statistics, 1996*. (Washington, DC: 1997).

Aviation fuel, gasoline: U.S. Department of Energy. Energy Information Administration. *Annual Energy Review, 1997*. (Washington, DC: 1998).

Aviation fuel, jet fuel: U.S. Department of Transportation. Bureau of Transportation Statistics. Office of Airline Information. Private Communication. (Washington, DC: 1998).

Rail fuel: Association of American Railroads. *Railroad Facts, 1997 Edition*. (Washington, DC: 1997).

Rail fuel taxes: Association of American Railroads. Private Communication. (Washington, DC: 1998).

Water transport: U.S. Department of Transportation. Maritime Administration (MARAD). Private Communication. (Washington, DC: 1998).

table 4-5

New Model Year Fuel Efficiency for Road Motor Vehicles

(Gallons per 100 miles)

	Canada			Mexico			United States		
	1990	1995	1996	1990	1995	1996	1990	1995	1996
Sales weighted average									
Passenger cars	3.5	3.4	3.4	3.9	3.4	3.3	3.6	3.5	3.5
Light trucks	4.8	4.9	4.8	U	U	U	4.8	4.9	4.8
Range									
Passenger cars	8.8 to 2.1	8.2 to 2.1	7.6 to 2.1	U	3.9 to 2.9	4.6 to 2.7	11.5 to 1.5	9.7 to 1.7	7.2 to 1.8
Light trucks	9.5 to 2.9	8.0 to 3.6	7.7 to 3.6	U	U	U	8.4 to 3.0	6.8 to 3.0	7.1 to 3.2

KEY: U = Data are unavailable.**NOTES****All Countries**

Sales weighted average: Assumes 55 percent city and 45 percent highway travel.

Light trucks: Gross vehicle weight rating of zero kg to 3,856 kg (i.e., 8,500 pounds or less).

Averages and ranges: United States and Canada include both domestic and imported vehicles. Mexico includes only domestic vehicles.

SOURCES**Canada**Sales weighted average: Transport Canada. *Transportation in Canada, 1997 - Annual Report, TP 13198*. (Ottawa, Ont.: 1998).Ranges: Natural Resources Canada. *Canada's Energy Outlook, 1996-2020*. (Ottawa, Ont.: 1997).Transport Canada and Natural Resources Canada. *Fuel Consumption Guide, Annual*. (Ottawa, Ont.: various years).**Mexico**

Secretaría de Energía. Comisión Nacional para el Ahorro de Energía, Dirección de Transporte. (Mexico City, D.F.: 1998).

United States

Sales weighted average: U.S. Department of Transportation. National Highway Traffic Safety Administration. Consumer Programs Division, NPS-32. (Washington, DC: 1998).

Ranges: U.S. Department of Transportation. National Highway Traffic Safety Administration. Automotive Fuel Economy Program. *Twenty-second Annual Report to Congress*. (Washington, DC: various years).

U.S. Department of Transportation. National Highway Traffic Safety Administration. Consumer Programs Division, NPS-32. Private Communication. (Washington, DC: 1998).

table 4-6a

Federal Emission Control Requirements for Passenger Cars and Light Trucks: Model Year

(Grams of emissions per mile)

	Total hydrocarbons	Nonmethane hydrocarbons	Carbon monoxide (CO)	Cold temperature CO	Nitrogen oxides	Particulates
Canada, 1996						
Passenger cars	0.41	NA	3.4	NA	1.0	^a 0.20
Light trucks						
Under 3,751 pounds (loaded vehicle weight)	0.80	NA	10	NA	1.2	^a 0.26
Over 3,750 pounds (loaded vehicle weight)	0.80	NA	10	NA	1.7	^a 0.13
Mexico, model years 1995 and later						
Passenger cars	0.41	NA	3.4	NA	1.0	NA
Light trucks	1.01	NA	14.1	NA	2.3	NA
Under 8,503 pounds (gross vehicle weight)						
United States, model years 1994 and later						
Passenger cars						
Intermediate useful life	0.41	0.25	3.4	10.0	0.4	0.08
Full useful life	NA	0.31	4.2	NA	0.6	0.10
Light trucks						
3,751 to 5,750 pounds (loaded vehicle weight)						
Intermediate useful life	NA	0.32	4.4	10.0	0.7	^b 0.08
Full useful life	0.80	0.40	5.5	NA	0.97	^b 0.10

^aApplies to diesel-fueled vehicles only.

^bPhase-in begins with model-year 1995.

KEY: NA = Not applicable.

NOTES

All Countries

Light trucks are vehicles of about 3,856 kg or less gross vehicle weight rating (GVWR). For the United States and Canada, the exact definition is 8,500 pounds or less, and, for the time period of this table, there are four and two categories of light trucks, respectively, within the range of zero through 8,500 pounds.

Canada

Loaded vehicle weight (LVW): See Appendix B under the United States for definition.

From September 1, 1997, Canadian standards are harmonized with U.S. standards by regulation, for all classes of on-road vehicles.

Passenger cars and light trucks: For cars (light-duty vehicles) and light trucks (light-duty trucks, LDT), Canadian 1996 regulated standards were technically equivalent to those of the United States for 1988 model year vehicles, but in practice, manufacturers and importers provided vehicles meeting U.S. 1996 standards.

Mexico

Particulates: No regulations are in effect for particulates for these vehicles.

United States

Useful life: The life over which the standards must be met. See Appendix B for a more complete definition.

Coverage: This table is a simplification of the U.S. emissions standards for passenger cars and light trucks.

Implementation schedules: Schedules are summarized in Appendix B. The standards were phased in over several years.

Passenger cars and light trucks: Data are for gasoline fueled vehicles only. See Appendix B for the differences for diesel fueled vehicles.

Light trucks: There are four categories of light trucks. The regulations presented here are for the LDT2 category, which has a GVWR up to 2,722 kg (i.e., 6,000 pounds or less) and a LVW of 1,701 kg to 2,608 kg (i.e., 3,751 pounds through 5,750 pounds). (GVWR and LVR are defined in Appendix B.) In 1996, LDT2s accounted for more than 60 percent of the sales of new light trucks.

t a b l e 4-6a

Federal Emission Control Requirements for Passenger
Cars and Light Trucks: Model Year—*Continued*

SOURCES

Canada

Transport Canada. Road Safety and Motor Vehicle Regulations Directorate. (Ottawa, Ont.: 1998).

Mexico

Instituto Nacional de Ecología. *Diario Oficial de la Federación. Norma Oficial Mexicana NOM-042-ECOL-1993.* (Mexico City, D.F.: 1993).

United States

U.S. Code of Federal Regulations. (Washington, DC: 1998).

U.S. Environmental Protection Agency. Office of Air and Radiation. *Mobile Source Emissions Standards Summary.* (Washington, DC: 1992).

U.S. Environmental Protection Agency. Office of Air and Radiation. Office of Mobile Sources, Vehicle Programs and Compliance Division. *Tier 2 Study White Paper.* (Washington, DC: 1997).

t a b l e 5-1

Domestic Freight Activity by Mode

(Millions of U.S. short tons)

	Canada			Mexico			United States		
	1990	1995	1996	1990	1995	1996	1990	1995	1996
Total	687.1	784.6	809.8	419.0	473.2	490.8	6,701.3	7,784.5	8,069.7
Air	0.4	0.4	0.4	0.1	0.1	0.1	8.5	9.4	10.7
Water transport	66.6	55.7	53.8	33.7	35.1	34.8	1,117.8	1,086.2	1,093.3
Coastal shipping	28.9	24.9	23.3	33.7	35.1	34.8	298.6	266.6	267.4
Great Lakes	11.7	8.5	9.7	NA	NA	NA	110.2	116.1	114.9
Inland waterways ^a	26.0	22.3	20.8	NA	NA	NA	709.0	703.4	711.1
Pipeline	244.1	320.3	334.6	U	U	U	1,561.1	1,710.3	1,776.7
Crude oil and petroleum products	160.7	192.4	202.2	U	U	U	1,057.0	1,121.0	1,177.0
Natural gas	83.3	128.0	132.4	U	U	U	504.1	589.3	599.7
Rail	211.4	224.8	220.5	38.3	33.8	33.3	1,424.9	1,549.6	1,610.9
Road	164.6	184.4	200.5	346.9	404.2	422.5	2,589.0	3,429.0	3,578.0

^aCommercially navigable.

KEY: NA = Not applicable. U = Data are unavailable.

NOTES

Canada

Road: Includes *only* activity of Canadian domiciled for-hire carriers with annual intercity revenues greater than or equal to 1 million Canadian dollars; excludes local (less than 24 kilometers) deliveries and deliveries made by private trucks and small for-hire carriers.

Pipeline: Data are for both oil pipelines and natural gas.

Mexico

Total: Does not include data for pipelines because the data are unavailable.

Road: Includes only intercity truck activity on the Mexican federal highway system.

United States

Road: Data are for intercity for-hire and private truck only.

Pipeline: Data are for both oil pipelines and natural gas.

SOURCES

Canada

Air: Statistics Canada. *Canadian Civil Aviation, Catalogue No. 51-206-XPB*. (Ottawa, Ont.: various years).

Coastal shipping, Great Lakes and inland waterways and rail: Transport Canada. Economic Analysis Directorate based on Statistics Canada data. (Ottawa, Ont.: 1998).

Pipeline: Statistics Canada. *Oil Pipeline Transport, Catalogue No. 55-201-XPB*, and *Gas Utilities Transport and Distribution Systems, Catalogue No. 57-205-XPB*. (Ottawa, Ont.: various years).

Rail: Transport Canada. Economic Analysis Directorate, based on Statistics Canada data. (Ottawa, Ont.: 1998).

Road: Statistics Canada. *Trucking in Canada, Catalogue No. 53-222-XPB*. (Ottawa, Ont.: various years).

Mexico

Air: Secretaría de Comunicaciones y Transportes. Dirección General de Aeronáutica Civil. *La Aviación Mexicana en Cifras 1990-1996*. (Mexico City, D.F.: 1998).

Water transport: Secretaría de Comunicaciones y Transportes. Coordinación General de Puertos y Marina Mercante. *Los Puertos Mexicanos en Cifras 1990-1996*. (Mexico City, D.F.: 1997).

Rail: Secretaría de Comunicaciones y Transportes. Based on data from Ferrocarriles Nacionales de México. *Series Estadísticas 1990, 1995 y 1996*. (Mexico City, D.F.: various years).

Road: Secretaría de Comunicaciones y Transportes. Dirección General de Autotransporte Federal. (Mexico City, D.F.: 1998).

t a b l e 5-1**Domestic Freight Activity by Mode—Continued****United States**

Air: U.S. Department of Transportation. Bureau of Transportation Statistics. Office of Airline Information. *Air Carrier Traffic Statistics*. (Washington, DC: various years).

Coastal shipping, Great Lakes and inland waterways: U.S. Army Corps of Engineers. *Waterborne Commerce of the U.S., Part 5*. (New Orleans, LA: Annual issues).

Pipeline, crude oil and petroleum products: Association of Oil Pipe Lines. *Shifts in Petroleum Transportation*. (Washington, DC: various years).

Pipeline, natural gas: U.S. Department of Transportation. Bureau of Transportation Statistics. Special tabulation based on Department of Energy data. (Washington, DC: 1999).

Rail: Association of American Railroads. *Railroad Facts, 1997*. (Washington, DC: 1997).

Road: Eno Transportation Foundation, Inc. *Transportation in America, 1997*. (Lansdowne, VA: 1997).

Domestic Freight Activity by Mode

(Billions (thousand millions) of ton-miles)

	Canada			Mexico			United States		
	1990	1995	1996	1990	1995	1996	1990	1995	1996
Total	356.6	412.9	420.8	105.5	141.1	145.7	3,472.6	3,962.2	4,052.3
Air	0.3	0.4	0.4	0.6	0.8	0.7	7.4	10.7	10.9
Water transport	36.8	29.1	27.5	13.2	13.7	13.6	833.5	807.7	764.7
Coastal shipping	9.6	6.8	7.1	13.2	13.7	13.6	479.1	440.3	408.1
Great Lakes	5.0	3.5	3.7	NA	NA	NA	60.9	59.7	58.3
Inland waterways ^a	22.2	18.4	16.8	NA	NA	NA	293.5	307.7	298.3
Pipeline	145.3	187.6	192.2	U	U	U	862.7	917.1	934.7
Crude oil and petroleum products	70.4	71.2	71.9	U	U	U	584.1	601.1	619.2
Natural gas	74.9	116.4	120.3	U	U	U	278.6	316.0	315.5
Rail	136.7	150.7	151.6	17.1	15.1	14.4	1,034.0	1,305.7	1,356.0
Road	37.5	45.1	49.0	74.6	111.5	117.0	735.0	921.0	986.0

^aCommercially navigable.

KEY: NA = Not applicable. U = Data are unavailable.

NOTES

Canada

Road: Data include only activity of Canadian domiciled for-hire carriers with annual intercity revenues greater than or equal to 1 million Canadian dollars. Data exclude local (less than 24 kilometers) deliveries, and deliveries made by private trucks and small for-hire carriers. Pipeline: Data are for both oil pipelines and natural gas.

Mexico

Total: Does not include data for pipelines because the data are unavailable.

Road: Includes only intercity truck activity on the Mexican federal highway system.

United States

Pipeline: Data are for both oil pipelines and natural gas.

Road: Data are for intercity for-hire and private truck only.

SOURCES

Canada

Air: Statistics Canada. *Canadian Civil Aviation, Catalogue No. 51-206-XPB*. (Ottawa, Ont.: various years).

Coastal shipping, Great Lakes and inland waterways and rail: Transport Canada. Economic Analysis Directorate based on Statistics Canada data. (Ottawa, Ont.: 1998).

Pipeline: Statistics Canada. *Oil Pipeline Transport, Catalogue No. 55-201-XPB*, and *Gas Utilities Transport and Distribution Systems, Catalogue No. 57-205-XPB*. (Ottawa, Ont.: various years).

Rail: Transport Canada. Economic Analysis Directorate, based on Statistics Canada data. (Ottawa, Ont.: 1998).

Road: Statistics Canada. *Trucking in Canada, Catalogue No. 53-222-XPB*. (Ottawa, Ont.: various years).

Mexico

Air: Secretaría de Comunicaciones y Transportes. Dirección General de Aeronáutica Civil. *La Aviación Mexicana en Cifras 1990-1996*. (Mexico City, D.F.: 1998).

Water transport: Secretaría de Comunicaciones y Transportes. Coordinación General de Puertos y Marina Mercante. *Los Puertos Mexicanos en Cifras 1990-1996*. (Mexico City, D.F.: 1997).

Rail: Secretaría de Comunicaciones y Transportes. Based on data from Ferrocarriles Nacionales de México. *Series Estadísticas 1990, 1995 y 1996*. (Mexico City, D.F.: various years).

Road: Secretaría de Comunicaciones y Transportes. Dirección General de Autotransporte Federal. (Mexico City, D.F.: 1998).

t a b l e 5-2**Domestic Freight Activity by Mode—Continued****United States**

Air: U.S. Department of Transportation. Bureau of Transportation Statistics. Office of Airline Information. *Air Carrier Traffic Statistics*. (Washington, DC: various years).

Coastal shipping, Great Lakes and inland waterways: U.S. Army Corps of Engineers. *Waterborne Commerce of the U.S., Part 5*. (New Orleans, LA: Annual issues).

Pipeline, crude oil and petroleum products: Association of Oil Pipe Lines. *Shifts in Petroleum Transportation*. (Washington, DC: various years).

Pipeline, natural gas: U.S. Department of Transportation. Bureau of Transportation Statistics. Special tabulation based on Department of Energy data. (Washington, DC: 1999).

Rail: Association of American Railroads. *Railroad Facts, 1997*. (Washington, DC: 1997).

Road: Eno Transportation Foundation, Inc. *Transportation in America, 1997*. (Lansdowne, VA: 1997).

t a b l e 5-3a

Top Canadian Domestic Freight Commodities by Mode: 1996

(Millions of U.S. short tons)

Mode of transportation	Total	Mode of transportation	Total
Air		Road	
N	N	Forest products	44.4
		Live animals and food products	26.5
Pipeline		Petroleum products	25.5
Natural gas	132.4	Construction materials	20.3
Crude oil	131.1	Steel	15.8
Petroleum products	71.1	Water transport	
		Iron ore	7.8
Rail		Pulpwood and chips	7.4
Bituminous coal	43.9	Wheat	5.3
Iron ore and concentrates	41.2	Stone and limestone	5.1
Wheat	22.4	Fuel oil	4.8
Muriate of potassium (potash)	13.5	Intermodal	
Pulpwood and chips	12.9	N	N

KEY: N = Data are nonexistent.

SOURCES

Pipeline: Statistics Canada. *Oil Pipeline Transport, Catalogue No. 55-201-XPB, 1996.* (Ottawa, Ont.: 1997). Statistics Canada. *Gas Utilities, Transport and Distribution Systems, Catalogue No. 57-205-XPB, 1996.* (Ottawa, Ont.: 1997).

Rail: Statistics Canada. *Rail in Canada, Catalogue No. 52-216-XPB, 1996.* (Ottawa, Ont.: 1998).

Road: Statistics Canada. Transportation Division. Special for-hire trucking tabulations for Transport Canada. (Ottawa, Ont.: 1998).

Water transport: Transport Canada. Economic Analysis Directorate. (Ottawa, Ont.: 1998). (Tabulations derived from Statistics Canada's Marine Database.)

t a b l e 5-3b

Top Mexican Domestic Freight Commodities by Mode: 1996

(Millions of U.S. short tons)

Mode of transportation	Total	Mode of transportation	Total
Air		Road	
N	N	Miscellaneous manufactured articles	56.4
		Salt, sulfur, plaster and cement	39.7
Pipeline		Mineral fuels, oils and waxes	31.9
Crude oil	U	Edible fruits and vegetables	21.9
Natural gas	U	Beverages, spirits and vinegar	20.5
Petroleum products	U	Water transport	
		Crude oil and petroleum products	21.4
Rail		Limestone	8.0
Cement	10.3	Salt	6.9
Corn	6.5	Iron ore pellets	1.5
Iron ore	4.3	Cement	0.1
Coal	3.1	Intermodal	
Fuel oil	2.6	N	N

KEY: N = Data are nonexistent. U = Data are unavailable.

NOTES

Road and water transport: Data are for 1993.

Road and rail: Data include foreign trade merchandise.

SOURCES

Rail: Secretaría de Comunicaciones y Transportes. Based on data from the Ferrocarriles Nacionales de México. *Series Estadísticas*, 1996. (Mexico City, D.F.: 1997).

Road: Instituto Mexicano del Transporte based on the vehicle's weight and dimensions study. (Sanfandila, Qro.: 1997).

Water transport: Secretaría de Comunicaciones y Transportes. Coordinación General de Puertos y Marina Mercante. (Mexico City, D.F.: 1997).

Top U.S. Domestic Freight Commodities by Mode: 1993

(Millions of U.S. short tons)

Mode of transportation	Total	Mode of transportation	Total
Air		Road	
Machinery, excluding electricals	0.51	Nonmetallic minerals	1,504.2
Chemicals or allied products	0.36	Petroleum or coal products	992.7
Electrical machinery, equipment or supplies	0.28	Food or kindred products	743.2
Transportation equipment	0.26	Lumber or wood products, excluding furniture	583.1
Instruments, photographic and optical goods, watches or clocks	0.10	Chemicals or allied products	310.5
Pipeline		Water transport	
Crude oil	1,019.6	Petroleum and petroleum products	930.6
Petroleum products	850.9	Crude materials	360.6
Natural gas	554.0	Coal	300.4
Rail		Food and farm products	269.3
Coal	631.1	Chemicals and related products	131.6
Farm products	174.9	Intermodal (road and rail combination)	
Nonmetallic minerals	144.9	Transportation equipment	7.6
Petroleum or coal products	136.2	Chemicals or allied products	2.1
Chemicals or allied products	130.3	Food or kindred products	1.9
		Lumber or wood products, excluding furniture	1.7
		Pulp, paper or allied products	1.6

SOURCES

Air, road and rail: U.S. Department of Commerce. U.S. Census Bureau. *1993 Commodity Flow Survey*. Special tabulation. (Washington, DC: 1998).

Pipeline: U.S. Department of Transportation. Bureau of Transportation Statistics. Special tabulation. (Washington, DC: 1998).

Water transport: U.S. Army Corps of Engineers (USACE). *Waterborne Commerce of the United States, Calendar Year 1996; Part 5 - National Summaries*. (New Orleans, LA: 1997).

t a b l e 5-4a

Top Canadian Domestic Freight Interprovincial Pairs by Mode: 1996

(Thousands of U.S. short tons)

Mode of transportation	Total	Mode of transportation	Total
Air		Québec to Ontario	7,545
N	N	Alberta to British Columbia	3,360
		British Columbia to Alberta	2,270
Pipeline		Alberta to Saskatchewan	1,963
N	N		
Rail		Water transport	
Alberta to British Columbia	32,336	Ontario to Québec	6,820
Newfoundland to Québec	23,011	Québec to Ontario	6,573
Saskatchewan to British Columbia	14,209	Nova Scotia to Newfoundland	893
Saskatchewan to Ontario	9,093	Nova Scotia to Québec	821
Ontario to Québec	5,155	Nova Scotia to New Brunswick	750
Road		Intermodal	
Ontario to Québec	7,719	N	N

KEY: N = Data are nonexistent.

NOTE: Data represent one-way flows.

SOURCES

Rail: Transport Canada. Economic Analysis Directorate. (Ottawa, Ont.: 1998). (Rail data adapted by Transport Canada from Statistics Canada sources.)

Road: Statistics Canada. Transportation Division. Special for-hire trucking tabulations for Transport Canada. (Ottawa, Ont.: 1998).

Water transport: Transport Canada. Economic Analysis Directorate. (Ottawa, Ont.: 1998). (Tabulations derived from Statistics Canada's Marine Database.)

t a b l e 5-4b

Top U.S. Domestic Freight Interstate Pairs by Mode: 1993

(Thousands of U.S. short tons)

Mode of transportation	Total	Mode of transportation	Total
Air		Illinois to Indiana	19,850
California to Texas	43	Pennsylvania to New Jersey	18,729
California to New Jersey	30	Michigan to Ohio	16,596
Indiana to California	24	New Jersey to New York	16,079
New Jersey to California	18	Water transport	
California to Georgia	17	Illinois to Louisiana	20,300
Pipeline		Missouri to Louisiana	12,222
N	N	West Virginia to Pennsylvania	12,057
Rail		Louisiana to Texas	9,731
Wyoming to Texas	41,456	Iowa to Louisiana	9,511
West Virginia to Virginia	23,854	Intermodal	
Wyoming to Kansas	21,464	(road and rail combination)	
Wyoming to Missouri	20,400	Kentucky to Michigan	1,089
Illinois to Indiana	18,960	California to Michigan	345
Road		Ohio to California	328
Indiana to Illinois	28,636	Illinois to California	288
		Michigan to Florida	180

KEY: N = Data are nonexistent.

NOTE: Data represent one-way flows.

SOURCE: U.S. Department of Commerce. U.S. Census Bureau. *1993 Commodity Flow Survey*. Special tabulation. (Washington, DC: 1998).

t a b l e 5-5a

Top Canadian Domestic Freight Area Pairs by Mode: 1996

(Thousands of U.S. short tons)

Mode of transportation	Total	Mode of transportation	Total
Air		Toronto, Ont. to Hamilton, Ont.	1,063
N	N	Montréal, Que. to Québec, Que.	1,013
Pipeline		Water transport	
N	N	Sept-Îles/Pte-Noire, Que. to Hamilton, Ont.	3,631
Rail		Havre-St-Pierre, Que. to Sorel, Que.	2,697
N	N	Port-Cartier, Que. to Hamilton, Ont.	2,277
Road		Colborne, Ont. to Clarkson, Ont.	2,010
Hamilton, Ont. to Toronto, Ont.	2,994	Fraser River, B.C. to East Coast	
Toronto, Ont. to Montréal, Que.	2,272	Vancouver Island, B.C.	1,791
Montréal, Que. to Toronto, Ont.	1,789	Intermodal	
		N	N

KEY: N = Data are nonexistent.

NOTES: Data represent one-way flows.

Water data represent port to port pairs rather than metropolitan area pairs.

SOURCES: Road: Statistics Canada. Transportation Division. Special for-hire trucking tabulations for Transport Canada. (Ottawa, Ont.: 1998).

Water transport: Transport Canada. Economic Analysis Directorate. (Ottawa, Ont.: 1998). (Tabulations derived from Statistics Canada's Marine Database.)

Top Mexican Domestic Freight Area Pairs by Mode: 1996

(Thousands of U.S. short tons)

Mode of transportation	Total	Mode of transportation	Total
Air		Road	
Mexico City, D.F. to Guadalajara, Jal.	7	Mexico City, D.F. to Nuevo Laredo, Tamps.	14,000
Mexico City, D.F. to Tijuana, B.C.	6	Mexico City, D.F. to Monterrey, N.L.	8,200
Mexico City, D.F. to Cancún, Q. Roo.	4	Mexico City, D.F. to Guadalajara, Jal.	6,700
Guadalajara, Jal. to México City, D.F.	4	Mexico City, D.F. to Veracruz, Ver.	5,200
Mexico City, D.F. to Monterrey, N.L.	4	Mexico City, D.F. to Toluca, Edo. de Mex.	4,900
Pipeline		Water transport	
U	U	Guerrero Negro, B.C.S. to Isla de Cedros, B.C.	8,200
Rail		Pajaritos, Ver. to Tuxpan, Ver.	4,400
Nuevo Laredo, Tamps. to Monterrey, N.L.	1,712	Salina Cruz, Oax. to Guaymas, Son.	2,500
Nuevo Laredo, Tamps. to Mexico City, D.F.	1,401	Salina Cruz, Oax. to Manzanillo, Col.	2,300
Veracruz, Ver. to Mexico City, D.F.	885	Salina Cruz, Oax. to Lázaro Cárdenas, Mich.	1,400
Ciudad Sahagún, Hgo. to Mexico City, D.F.	863	Intermodal	
Nuevo Laredo, Tamps. to Guadalajara, Jal.	768	N	N

KEY: N = Data are nonexistent. U = Data are unavailable.

NOTES

Data represent one-way flows.

Rail: Figures of 1993, based on allocation studies (see Appendix B).

Road: Figures of 1994, from a survey of motor carrier vehicles on federal roads (see Appendix B).

Water transport: Data represent port to port pairs rather than metropolitan area pairs.

SOURCES

Air: Instituto Mexicano del Transporte based on special tabulations of the Secretaría de Comunicaciones y Transportes. Dirección General de Aeronáutica Civil. (Sanfandila, Qro.: 1999).

Rail: Instituto Mexicano del Transporte. *Evaluación Económica de Mejoras a la Infraestructura del Sistema Nacional Ferroviario, Publicación Técnica No. 82*. Estimates included in this document are based on information from the Ferrocarriles Nacionales de México. (Sanfandila, Qro.: 1996).

Road: Instituto Mexicano del Transporte. Special tabulation from *Estudio de pesos y dimensiones de los vehiculos de carga que circulan en la red nacional de carreteras, 1994*. (Sanfandila, Qro.: 1999).

Water transport: Secretaría de Comunicaciones y Transportes. Coordinación General de Puertos y Marina Mercante. (Mexico City, D.F.: 1997).

t a b l e 6-2a

Canadian Merchandise Trade With Mexico and the United States by Mode of Transportation

(Thousands of U.S. short tons)

	1990 ^e	1995 ^e	1996 ^e
Total trade with Mexico	2,264	5,074	5,147
Air	31	81	50
Water transport	1,437	2,765	2,863
Road	459	1,046	856
Rail	320	487	413
Pipeline and other ^a	17	715	964
Exports to Mexico	762	2,459	2,408
Air	7	26	5
Water transport	506	2,086	2,146
Road	86	159	87
Rail	164	188	170
Pipeline and other ^a	NS	NS	NS
Imports from Mexico	1,501	2,635	2,739
Air	24	55	45
Water transport	933	680	717
Road	373	887	769
Rail	155	299	243
Pipeline and other ^a	17	715	964
Total trade with the United States	270,960	390,600	405,635
Air	2,995	2,710	2,622
Water transport	74,839	79,912	85,286
Road	73,979	105,215	108,166
Rail	45,137	66,499	67,497
Pipeline and other ^a	74,011	136,264	142,065
Exports to the United States	193,589	295,955	305,922
Air	198	460	226
Water transport	44,144	49,890	53,368
Road	42,374	57,253	59,861
Rail	35,584	53,267	54,603
Pipeline and other ^a	71,288	135,084	137,861
Imports from the United States	77,372	94,645	99,717
Air	2,797	2,250	2,396
Water transport	30,695	30,022	31,919
Road	31,604	47,962	48,304
Rail	9,554	13,232	12,894
Pipeline and other ^a	2,722	1,179	4,204

^aMostly pipeline moves; also includes mail, parcel post and other miscellaneous modes of transportation.**KEY:** e = Data are estimated. NS = Not significant.**SOURCE:** Statistics Canada. International Trade Division. Special tabulations. (Ottawa, Ont.: 1998).

t a b l e 6-2b

Mexican Merchandise Trade With Canada and the United States by Mode of Transportation

(Thousands of U.S. short tons)

	1990	1995	1996
Total trade with Canada	N	N	N
Air	^a 2	2	2
Water transport	1,571	^b 3,778	3,095
Road	N	N	N
Rail	U	U	U
Pipeline	NA	NA	NA
Exports to Canada	N	N	N
Air	^a 1	1	1
Water transport	1,159	^b 1,893	1,089
Road	N	N	N
Rail	U	U	U
Pipeline	NA	NA	NA
Imports from Canada	N	N	N
Air	^a 1	1	1
Water transport	412	^b 1,885	2,006
Road	N	N	N
Rail	U	U	U
Pipeline	NA	NA	NA
Total trade with the United States	N	N	N
Air	^a 77	128	155
Water transport	65,334	^b 79,888	99,100
Road	N	N	42,690
Rail	U	U	16,667
Pipeline	U	U	U
Exports to the United States	N	N	N
Air	^a 33	66	82
Water transport	54,784	^b 68,010	85,592
Road	N	N	15,964
Rail	U	U	5,305
Pipeline	U	U	U
Imports from the United States	N	N	N
Air	^a 44	62	74
Water transport	10,550	^b 11,877	13,508
Road	N	N	26,727
Rail	U	U	11,362
Pipeline	U	U	U

^aData for 1990 are nonexistent. Data in this table represent 1992.

^bData for 1995 are nonexistent. Data in this table represent 1994.

KEY: N = Data are nonexistent. NA = Not applicable. U = Data are unavailable.

t a b l e 6-2b**Mexican Merchandise Trade With Canada and the United States by Mode of Transportation—Continued****SOURCES**

Air: Secretaría de Comunicaciones y Transportes. Dirección General de Aeronáutica Civil. Special tabulation. (Mexico City, D.F.: 1997).

Water transport: Secretaría de Comunicaciones y Transportes. Coordinación General de Puertos y Marina Mercante. (Mexico City, D.F.: 1998).

Road and rail, 1996: Instituto Mexicano del Transporte. Special tabulations based on data from the Secretaría de Comercio y Fomento Industrial and U.S. Bureau of Transportation Statistics. (Querétaro, Qro.: 1998).

t a b l e 6-2c

U.S. Merchandise Trade With Canada and Mexico by Mode of Transportation

(Thousands of U.S. short tons)

	1990	1995	1996
Total trade with Canada	N	N	N
Air	245	278	297
Water transport	72,143	75,518	79,381
Road	N	N	N
Rail	N	N	N
Pipeline	N	N	N
Exports to Canada	N	N	N
Air	188	237	248
Water transport	27,772	28,353	27,454
Road	N	N	N
Rail	N	N	N
Pipeline	N	N	N
Imports from Canada	N	N	N
Air	56	42	49
Water transport	44,371	47,166	51,928
Road	N	59,044	63,719
Rail	N	51,004	53,809
Pipeline	N	67,665	69,323
Total trade with Mexico	N	N	N
Air	49	71	91
Water transport	57,475	79,753	83,710
Road	N	N	N
Rail	N	N	N
Pipeline	N	N	N
Exports to Mexico	N	N	N
Air	29	31	41
Water transport	9,449	9,515	14,437
Road	N	N	N
Rail	N	N	N
Pipeline	N	N	N
Imports from Mexico	N	N	N
Air	20	40	51
Water transport	47,525	70,238	70,375
Road	N	N	15,964
Rail	N	N	5,307
Pipeline	N	N	125

KEY: N = Data are nonexistent.**NOTES**

Imports from Canada: The U.S. Customs Service began to require shipping weight for U.S. imports from Canada by all modes of transportation in 1990. However, it did not become possible to disaggregate the land modes (road, rail and pipeline) until 1994.

Imports from Mexico: The U.S. Customs Service began to require shipping weight for U.S. imports from Mexico by land modes of transportation (road, rail and pipeline) in April 1995.

Road, rail and pipeline exports: For 1990, 1995 and 1996, the U.S. Census Bureau did not require shippers to report weight for export shipments to Canada or Mexico for these modes of transportation.

U.S. Merchandise Trade With Canada and Mexico by Mode of Transportation

SOURCES

Total trade: U.S. Department of Commerce. U.S. Census Bureau. *Statistical Abstract of the United States*. (Washington, DC: 1990, 1995 and 1996).

Air and water: U.S. Department of Commerce. U.S. Census Bureau. Foreign Trade Division. *FT920 U.S. Merchandise Trade*. (Washington, DC: December 1990, 1995 and 1996).

Road, rail and pipeline: U.S. Department of Transportation. Bureau of Transportation Statistics. *Transborder Surface Freight Data*. (Washington, DC: 1998).

t a b l e 6-4a

Top Mexican Maritime Intransit Shipment Ports:^a January-June 1997

(Thousands of U.S. dollars or U.S. short tons)

	Value	Weight
To/from the United States		
U.S. overseas exports transshipped through Mexican maritime ports	N	23.8
Port of Manzanillo, Col.	N	17.3
Port of Veracruz, Ver.	N	6.0
Port of Lázaro Cárdenas, Mich.	N	0.3
Port of Progreso, Yuc.	N	0.2
Port of Ensenada, B.C.	N	0.1
U.S. overseas imports transshipped through Mexican maritime ports	N	101.9
Port of Tampico, Tamps.	N	55.8
Port of Tuxpan, Ver.	N	25.2
Port of Veracruz, Ver.	N	11.2
Port of Manzanillo, Col.	N	5.1
Port of Altamira, Tamps.	N	4.6
To/from Canada		
Canadian overseas exports transhipped through Mexican maritime ports	N	0
Canadian overseas imports transhipped through Mexican maritime ports	N	0

^aPorts are ranked on total intransit shipment weight.

KEY: N = Data are nonexistent.

NOTE: Data are unavailable for 1996.

SOURCE: Instituto Mexicano del Transporte. Special tabulation based on 1997 data from the Journal of Commerce. *Port Import Export Reporting Service (PIERS)*. (Querétaro, Qro.: 1998).

t a b l e 6-4b

Top U.S. Maritime Intransit Shipment Ports:^a 1996

(Thousands of U.S. dollars or U.S. short tons)

	Value	Weight
To/from Canada		
Canadian overseas exports transshipped through U.S. maritime ports	199,519	80.6
Port of Los Angeles, CA	119,143	33.6
Port of Long Beach, CA	70,791	42.2
Port of Norfolk, VA	4,964	2.5
Port of New York, NY	1,111	1.0
Port of Houston, TX	822	0.4
Canadian overseas imports transshipped through U.S. maritime ports	442,627	92.9
Port of Superior, WI	132,496	1.8
Port of Los Angeles, CA	83,079	12.6
Port of Duluth, MN	55,096	0.7
Port of Brownsville, TX	44,438	31.3
Port of Seattle, WA	37,781	9.1
To/from Mexico		
Mexican overseas exports transshipped through U.S. maritime ports	420,320	1,224.8
Port of Long Beach, CA	171,012	23.9
Port of Brownsville, TX	90,559	58.8
Port of Los Angeles, CA	46,716	14.9
Port of Charleston, SC	39,688	6.0
Port of Houston, TX	21,969	4.6
Mexican overseas imports transshipped through U.S. maritime ports	584,373	1,225.4
Port of Los Angeles, CA	161,817	48.9
Port of Long Beach, CA	133,015	50.7
Port of Portland, ME	126,073	980.6
Port Everglades, FL	34,136	2.1
Port of Miami, FL	30,612	3.3

^aPorts are ranked on total intransit shipment value.

SOURCE: U.S. Department of Transportation. Maritime Administration. Office of Statistical and Economic Analysis. *Annual Waterborne Databanks 1996* (formerly TA 305/705). (Washington, DC: 1998).

t a b l e 7-2

International Merchandise Trade Between North America and the Rest of the World by Weight

(Millions of U.S. short tons)

	Canada			Mexico			United States		
	1990 ^e	1995 ^e	1996 ^e	1990	1995	1996	1990	1995	1996
Total trade	263.5	241.1	259.8	U	U	U	831.0	911.6	906.1
Exports	197.9	169.6	188.7	U	U	U	374.1	406.4	384.4
Imports	65.6	71.3	71.2	U	U	U	456.9	505.2	521.7
Air, total trade	0.8	2.0	1.2	U	U	U	3.2	4.7	5.1
Exports	0.2	0.6	0.3	U	U	U	1.4	2.2	2.4
Imports	0.6	1.4	0.9	U	U	U	1.8	2.5	2.6
Water, total trade	242.2	223.1	242.7	U	U	44.8	827.8	906.9	901.0
Exports	196.1	166.9	186.4	U	U	34.5	372.7	404.2	382.0
Imports	46.1	56.3	56.3	U	U	10.3	455.1	502.7	519.1
Road, total trade	5.5	6.8	5.0	U	U	U	U	U	U
Exports	1.3	2.0	1.7	U	U	U	U	U	U
Imports	4.2	4.7	3.3	U	U	U	U	U	U
Rail, total trade	1.3	0.9	0.7	U	0.2	0.4	U	U	U
Exports	0.2	0.3	0.2	U	0.2	0.4	U	U	U
Imports	1.1	0.6	0.4	U	NS	NS	U	U	U
Pipeline and other, total trade	13.7	8.3	10.1	N	N	N	U	U	U
Exports	0.0	NS	NS	N	N	N	U	U	U
Imports	13.7	8.3	10.1	N	N	N	U	U	U

KEY: e = Data are estimated. N = Data are nonexistent. NS = Not significant. U = Data are unavailable.

NOTES

All Countries

Intra-North American trade is excluded from these figures (e.g., Canada's trade with Mexico and the United States is excluded; Mexico's trade with Canada and the United States is excluded; and the United State's trade with Mexico and Canada is excluded).

Canada

All land modes: Canada export data for all land modes represent transshipments (e.g., trade shipments between Canada and a third country that were transshipped via the United States). Canadian import data are based on the last mode of transport by which the cargo was transported to the port of clearance in Canada.

Mexico

Total, air and road: Data were not available that excluded trade with Canada and the United States. See Appendix B for available data for Mexican air and road trade with all countries.

Rail: Represents trade with Central American countries. Data were unavailable for 1990 that excluded trade with Canada and the United States. See Appendix B for Mexican rail trade with all countries.

Water: Data were unavailable for 1990 and 1995 that excluded trade with Canada and the United States. See Appendix B for Mexican water trade with all countries.

United States

Total: Includes only air and water shipments.

Road, rail and pipeline: Data for these modes are included in U.S. trade with Canada and U.S. trade with Mexico. Data for these modes are therefore shown in Table 6-6.

t a b l e 7-2**International Merchandise Trade Between North America
and the Rest of the World by Weight—Continued****SOURCES****Canada**

Statistics Canada. International Trade Division. Special tabulations. (Ottawa, Ont.: 1998).

Mexico

Air: Secretaría de Comunicaciones y Transportes. Dirección General de Aeronáutica Civil. *La Aviación Mexicana en Cifras, 1989-1995*. (Mexico City, D.F.: 1996).

Water: Secretaría de Comunicaciones y Transportes. Coordinación General de Puertos y Marina Mercante. *Los Puertos Mexicanos en Cifras 1990-1996*. (Mexico City, D.F.: 1997).

Road: Instituto Mexicano del Transporte. *Manual Estadístico del Sector Transporte, 1997*. (Querétaro, Qro.: 1998).

Rail: Ferrocarriles Nacionales de México. *Series Estadísticas 1990, 1995 y 1996*. (Mexico City, D.F.: various years).

United States

Air and water: U.S. Department of Transportation. Maritime Administration. Office of Statistical and Economic Analysis. Special tabulation based on U.S. Department of Commerce. U.S. Census Bureau. Foreign Trade Division. *U.S. Imports and Exports of Merchandise, December 1990, 1995 and 1996*. (Washington, DC: 1998).

Top Canadian International Trade Commodities by Weight: 1996 (Excluding Trade With the United States and Mexico)

(Thousands of U.S. short tons)

	1996		1996
Overall exports		Land exports (road only)	
Special transactions-trade (99)	66,977	Ores, slag and ash (26)	330
Mineral fuels, oils and waxes (27)	38,313	Paper and paperboard (48)	170
Ores, slag and ash (26)	21,608	Edible vegetables and roots (07)	111
Cereals (10)	19,882	Vehicles other than railway (87)	101
Pulp of wood and paperboard (47)	6,775	Other made up textile articles (63)	77
Overall imports		Land imports (road only)	
Mineral fuels, oils and waxes (27)	42,279	Edible fruit and nuts (08)	647
Special transactions-trade (99)	4,490	Nuclear reactors, boilers, machinery and parts (84)	370
Ores, slag and ash (26)	3,833	Special classification provisions (98)	284
Inorganic chemicals (28)	3,245	Iron and steel (72)	256
Iron and steel (72)	2,792	Toys, games and sporting equipment (95)	227
Air exports		Water exports	
Iron and steel (72)	68	Special transactions-trade (99)	66,849
Special transactions-trade (99)	64	Mineral fuels, oils and waxes (27)	38,304
Nuclear reactors, boilers, machinery and parts (84)	39	Ores, slag and ash (26)	21,278
Electrical machinery, equipment and parts (85)	35	Cereals (10)	19,849
Fish and crustaceans (03)	16	Pulp of wood and paperboard (47)	6,710
Air imports		Water imports	
Nuclear reactors, boilers, machinery and parts (84)	125	Mineral fuels, oils and waxes (27)	32,015
Special classification provisions (98)	116	Special transactions-trade (99)	4,413
Live trees and plants (06)	113	Ores, slag and ash (26)	3,619
Electrical machinery, equipment and parts (85)	93	Inorganic chemicals (28)	3,218
Ores, slag and ash (26)	60	Iron and steel (72)	2,533

NOTES

Merchandise trade with the United States and Mexico is excluded from these data.

Commodity code: Description based on the two-digit Harmonized Commodity Description and Coding System (HS).

All land modes: Canada export data for all land modes represent transshipments (e.g., trade shipments between Canada and a third country that were transshipped via the United States). Canadian import data are based on the last mode of transport by which the cargo was transported to the port of clearance in Canada.

SOURCE: Statistics Canada. International Trade Division. Special tabulations. (Ottawa, Ont.: 1998).

t a b l e 7-5b

Top U.S. International Trade Commodities by Weight: 1996 (Excluding Trade With Canada and Mexico)

(Thousands of U.S. short tons)

	1996		1996
Overall exports			
Mineral fuels, oils and waxes (27)	126	Electrical machinery, equipment and parts (85)	346
Cereals (10)	89	Not knitted or crocheted apparel (62)	219
Oil seeds and oleaginous fruits(12)	28	Live trees and plants (6)	200
Wood and articles (44)	23	Knitted or crocheted apparel (61)	157
Food residues and waste (23)	15		
Overall imports		Land exports	
Mineral fuels, oils and waxes (27)	353	U	U
Iron and steel (72)	25	Land imports	
Ores, slag and ash (26)	25	U	U
Salt, sulfur, plaster and cement (25)	22	Water exports	
Inorganic chemicals (28)	10	Mineral fuels, oils and waxes (27)	125,180
Air exports		Cereals (10)	88,851
Nuclear reactors, boilers, machinery and parts (84)	548	Oil seeds and oleaginous fruits (12)	27,813
Electrical machinery, equipment and parts (85)	364	Wood and articles (44)	23,597
Measuring and testing instruments (90)	140	Food residues and waste (23)	15,549
Vehicles other than railway (87)	88	Water imports	
Plastics (39)	82	Mineral fuels, oils and waxes (27)	353,118
Air imports		Iron and steel (72)	25,831
Nuclear reactors, boilers, machinery and parts (84)	479	Ores, slag and ash (26)	24,919
		Salt, sulfur, plaster and cement (25)	22,155
		Inorganic chemicals (28)	10,201

KEY: U = Data are unavailable.

NOTES: Merchandise trade with Canada and Mexico is excluded from these data.

Commodity code: Description based on the two-digit Harmonized Commodity Description and Coding System (HS).

Total: Includes air and water shipments, excluding trade with Canada and Mexico.

Land (road and rail): Data for these modes are included in U.S. trade with Canada and U.S trade with Mexico for 1996.

SOURCES: Overall, air and water: U.S. Department of Transportation. Maritime Administration. Office of Statistical and Economic Analysis. Special tabulation based on U.S. Department of Commerce. U.S. Census Bureau. Foreign Trade Division. *U.S. Imports and Exports of Merchandise, December 1990, 1995 and 1996.* (Washington, DC: 1998).

t a b l e 8-1

Domestic Passenger Travel by Mode

(Billions (or thousand millions) of passenger-miles)

	Canada			Mexico			United States		
	1990	1995	1996	1990	1995	1996	1990	^r 1995	1996
Passenger-miles, total	N	^e325	N	N	N	N	3,543	4,130	4,252
Air	N	N	N	6.0	8.6	^e8.1	359	414	445
Air carriers	^r 16	^r 16	^r 17	6.0	8.6	^e 8.1	346	404	435
Road	N	^e309	N	N	N	N	3,159	3,690	3,779
Personal vehicles	N	^e 290	N	N	N	N	3,037	3,554	3,641
Passenger cars	N	^e 229	N	N	N	N	2,129	2,287	2,334
Motorcycles	N	^e 1	N	N	N	N	12	11	11
Light trucks	N	^e 60	N	N	N	N	896	1,256	1,296
Bus	N	^e 19	N	N	N	N	121	136	139
Charter	N	^e 2	N	N	N	N	N	N	N
Intercity	N	^e 2	N	^e 168.7	^e 238.0	^e 242.6	N	N	N
Local motor	N	^e 8	N	N	N	N	21	19	19
School	N	^e 8	N	N	N	N	N	N	N
Rail									
Intercity passenger	0.9	0.9	0.9	3.3	1.2	1.1	6	6	5
Transit	N	^a	N	N	N	N	41	40	41
Transit rail	N	N	N	N	N	N	19	20	21
Water transport	N	N	N	0.12	0.12	0.12	N	N	N

^aData for all transit services for 1995 are included in the estimate for local motor bus, under road. The transit rail portion of transit services cannot be broken out.

KEY: e = Data are estimated. N = Data are nonexistent. p = Data are preliminary. r = Data are revised.

NOTES

All Countries

Air: The U.S. total for air represents both air carriers and general aviation. However, only the large certificated air carriers are included. See Appendix B for a more complete explanation. The Mexican air total represents only scheduled air carriers. However, nonscheduled and general aviation represent a very small share of passenger travel in Mexico. Canadian data for total air activity are nonexistent because data for general aviation are not collected.

Road: Data do not include passenger travel by commercial freight vehicles.

Transit and water transport: For the United States, ferry activity is included in the total for transit. For Mexico, data for overall transit activity are nonexistent because the data are not collected. However, Mexican data for water transport do represent ferry activity. Canadian data for transit overall and ferry activity are nonexistent because the data are not collected.

Canada

Air carriers: Includes level I to III Canadian air carriers. For a definition of these, see Appendix B.

Mexico

Air: Data for general aviation are not included in the air total.

Intercity bus: Data refer to intercity buses utilizing Mexico's federal highway system.

United States

Passenger-miles, total: Is not the sum of the subcategories because local motor bus is included in both the road and transit totals. This double counting has been removed from the overall total.

t a b l e 8-1**Domestic Passenger Travel by Mode—Continued****SOURCES****Canada**

Air carriers: Statistics Canada. *Canadian Civil Aviation, Catalogue No. 51-206-XPB*. (Ottawa, Ont.: various years).

Road: Transport Canada. Ministry of Public Works and Government Services. *Transportation in Canada 1997 - Annual Report*. (Ottawa, Ont.: 1998).

Rail: Statistics Canada. *Rail in Canada, Catalogue No. 52-216-XPB*. (Ottawa, Ont.: various years).

Mexico

Air: Secretaría de Comunicaciones y Transportes. Dirección General de Aeronáutica Civil. (Mexico City, D.F.: 1998).

Road: Secretaría de Comunicaciones y Transportes. Dirección General de Autotransporte Federal. (Mexico City, D.F.: 1997).

Rail: Ferrocarriles Nacionales de México. *Series Estadísticas, 1990, 1995 y 1996*. (Mexico City, D.F.: various years).

Water transport: Secretaría de Comunicaciones y Transportes. Coordinación General de Puertos y Marina Mercante. (Mexico City, D.F.: 1998).

United States

Air: U.S. Department of Transportation. Bureau of Transportation Statistics. Office of Airline Information. *Air Carrier Traffic Statistics*. (Washington, DC: 1986-1997).

U.S. Department of Transportation. Federal Aviation Administration. *Statistical Handbook of Aviation 1996*. Web site: www.bts.gov

Road: U.S. Department of Transportation. Federal Highway Administration. *Highway Statistics, Summary to 1995*. (Washington, DC: 1996).

U.S. Department of Transportation. Federal Highway Administration. *Highway Statistics, 1996*. (Washington, DC: 1997).

American Public Transit Association (APTA). *Transit Fact Book*. (Washington, DC: various years).

Intercity passenger rail: National Railroad Passenger Corp. *Amtrak Annual Report 1996*. (Washington, DC: 1996).

Transit rail: American Public Transit Association. *Transit Fact Book*. (Washington, DC: various years).

Domestic Physical System Extent

(Miles)

	Canada			Mexico			United States		
	1990	1995	1996	1990	1995	1996	1990	1995	1996
Road	552,336	560,417	U	148,654	191,372	194,055	3,880,000	3,912,000	3,934,000
Paved	184,803	197,546	U	52,149	59,988	61,618	2,259,000	2,373,000	2,380,000
Major road system	N	N	N	50,652	57,652	58,973	407,000	430,000	433,000
Less than four lanes	N	N	N	47,221	52,054	53,032	280,000	291,000	292,000
Four or more lanes	9,641	10,297	U	3,431	5,599	5,942	128,000	139,000	141,000
Local	N	N	N	N	N	N	1,852,000	1,942,000	1,947,000
Unpaved	367,533	362,871	U	96,505	131,384	132,437	1,621,000	1,539,000	1,554,000
Great Lakes	1,654	1,654	1,654	NA	NA	NA	4,400	4,400	4,400
Inland waterways^a	1,755	1,755	1,755	NA	NA	NA	26,000	26,000	26,000
Pipeline	170,349	192,484	195,188	11,187	9,703	9,649	1,415,646	1,462,652	1,469,534
Gas	148,556	169,554	172,223	8,049	7,118	7,050	1,206,894	1,262,152	1,269,034
Oil	21,794	22,929	22,965	3,137	2,586	2,599	208,752	200,500	200,500
Rail^b	53,985	49,912	48,086	16,380	16,537	16,543	200,074	180,419	176,978
Transit rail	N	N	N	122	171	171	N	3,932	4,325

^aCommercially navigable.

^bRail extent includes yard tracks, sidings and parallel lines.

KEY: N = Data are nonexistent. NA = Not applicable. U = Data are unavailable.

NOTES

All Countries

Road: The overall road total for Canada and the United States includes all roads (highways, local and others). Canada cannot disaggregate its data for local roads into paved and unpaved, however.

Rail: Data include length of track, including yard tracks, sidings and parallel lines.

Transit rail: Data are one-way, fixed guideway

Mexico

Road: Data do not include local roads.

Road, paved: Data include major roads plus minor rural roads.

SOURCES

Canada

Road: Transportation Association of Canada. *Transportation in Canada: A Statistical Overview - 1995*. (Ottawa, Ont.: 1998).

Great Lakes and inland waterways: Transport Canada. *Marine Distance Library, 1997*. (Ottawa, Ont.: 1998).

Pipeline: Statistics Canada. *Oil Pipeline Transport, Catalogue No. 55-201-XPB*, and *Gas Utilities, Transport and Distribution Systems, Catalogue No. 57-205-XPB*. (Ottawa, Ont.: various years).

Rail: Statistics Canada. *Rail in Canada, Catalogue No. 52-216-XPB*. (Ottawa, Ont.: various years).

Mexico

Road: Secretaría de Comunicaciones y Transportes. Dirección General de Evaluación. *Longitud de la Infraestructura Carretera, 1990, 1995 and 1996*. (Mexico City, D.F.: various years).

Pipeline: Instituto Nacional de Estadística, Geografía e Informática, based on data from the Petróleos Mexicanos. Subdirección de Planeación and the *Anuario Estadístico* (various years). (Aguascalientes, Ags.: various years).

Rail: Ferrocarriles Nacionales de México. *Series Estadísticas 1990, 1995 y 1996*. (Mexico City, D.F.: various years).

Transit: Instituto Nacional de Estadística, Geografía e Informática, based on data collected by the Sistema de Transporte Colectivo and the Sistema de Transporte Eléctrico in Mexico City, the Sistema de Transporte Colectivo de la Zona Metropolitana de Guadalajara, and the Sistema de Transporte Colectivo in Monterrey. (Mexico City, D.F.: various years).

Domestic Physical System Extent—*Continued*

United States

Road: U.S. Department of Transportation. Federal Highway Administration (FHWA). Unpublished data. (Washington, DC: 1998).

Great Lakes and inland waterways: U.S. Army Corps of Engineers. Navigation Data Center. Special tabulation. (New Orleans, LA: 1998).

Gas pipeline: American Gas Association. *Gas Facts*. (Arlington, VA: 1997).

Oil pipeline: Eno Transportation Foundation, Inc. *Transportation in America*. (Lansdowne, VA: 1997).

Freight rail: Association of American Railroads. *Railroad Facts*. (Washington, DC: 1997).

Intercity passenger rail: National Railroad Passenger Corp. *Amtrak Annual Report 1996*. (Washington, DC: 1996).

Transit rail: American Public Transit Association. *Transit Fact book 1996*. (Washington, DC: 1996).

Top 20 Canadian Water Ports by Tonnage (Domestic and International): 1996

(Thousands of U.S. short tons)

Port name	Total	Domestic	International	Containerized shipments (as percent of total tonnage)	Number of vessel entrances/ clearances
Vancouver, B.C.	78,711	2,192	76,518	7.2	5,673
Sept-Îles/Pte-Noire, Que.	24,895	4,648	20,246	NS	615
Port-Cartier, Que.	23,952	5,657	18,295	NS	521
Saint John, N.B.	22,680	2,151	20,529	1.2	825
Montréal/Contrecoeur, Que.	21,173	5,799	15,374	41.1	1,827
Québec/Lévis, Que.	18,725	4,058	14,667	NS	740
Halifax, N.S.	14,977	2,975	12,002	29.6	1,761
Hamilton, Ont.	14,062	6,822	7,240	NS	638
Thunder Bay, Ont.	11,134	7,237	3,898	NS	518
Prince Rupert, B.C.	10,419	15	10,404	NS	561
Port Hawkesbury, N.S.	8,692	36	8,655	NS	180
Fraser River, B.C.	8,297	5,954	2,344	1.6	3,479
Come-By-Chance, Nfld.	8,191	115	8,077	NS	148
Nanticoke, Ont.	7,485	1,842	5,643	NS	305
Baie-Comeau, Que.	6,467	2,022	4,446	NS	1,089
Sorel, Que.	6,151	3,644	2,507	NS	317
Sault Ste. Marie, Ont.	5,679	601	5,078	NS	291
Windsor, Ont.	5,600	2,763	2,836	NS	422
Howe Sound, B.C.	5,362	5,353	9	NS	2,517
East Coast Vancouver Island, B.C.	4,478	4,478	-	NS	2,467
Subtotal-top 20 ports	307,129	68,362	238,767	6.3	24,894
Tonnage, total all Canadian water ports	394,359	107,650	286,709	NA	NA
Percent of tonnage of all Canadian water ports	78	64	83	5.0	NA

KEY: NA Not applicable. NS = Not significant.

NOTE: Ports are ranked by total tonnage.

SOURCES

Statistics Canada. *Shipping in Canada, Catalogue No. 54-205-XPB, 1996.* (Ottawa, Ont.: 1998).

Statistics Canada. Transportation Division. Special tabulations. (Ottawa, Ont.: 1998).

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Top 20 Mexican Water Ports by Tonnage (Domestic and International): 1996

(Thousands of U.S. short tons)

Port name	Total	Domestic	International	Containerized shipments (as percent of total tonnage)	Number of vessel entrances/ clearances
Cayo Arcas, Camp.	34,691	4	34,686	NA	417
Pajaritos, Ver.	34,560	6,702	27,858	NA	954
Dos Bocas, Tab.	25,835	49	25,786	NA	1,145
Salina Cruz, Oax.	18,517	12,785	5,732	0.8	537
Isla Cedros, B.C.	16,297	8,277	8,019	NA	1,189
Lázaro Cárdenas, Mich.	13,235	4,102	9,134	0.8	425
Manzanillo, Col.	11,016	4,209	6,808	16.8	704
Veracruz, Ver.	10,932	696	10,236	23.2	1,396
Tampico, Tamps.	9,231	2,635	6,596	6.4	1,148
Tuxpan, Ver.	7,768	4,658	3,110	0.1	327
Guerrero Negro, B.C.S.	7,595	7,595	N	NA	1,077
Guaymas, Son.	6,239	2,704	3,535	NA	496
Punta Venado, Q. Roo.	6,637	NS	6,637	NA	106
Topolobampo, Sin.	3,275	3,090	185	NA	247
San Marcos, B.C.S.	3,071	7	3,064	NA	308
Rosarito, B.C.	2,908	1,791	1,117	NA	99
Coatzacoalcos, Ver.	2,682	601	2,081	NA	267
Altamira, Tamps.	2,661	138	2,523	41.6	667
Progreso, Yuc.	2,560	1,044	1,516	3.7	462
La Paz-Pichilingue, B.C.S.	2,221	2,041	180	NS	600
Subtotal-top 20 ports	221,929	63,126	158,803	2.9	12,571
Tonnage, total all Mexican water ports	229,786	69,805	159,980	NA	NA
Percent of tonnage of all Mexican water ports	96.6	90.4	99.3	2.8	NA

KEY: N = Data are nonexistent. NA = Not applicable. NS = Not significant.

NOTE: Ports are ranked by total tonnage.

SOURCE: Secretaría de Comunicaciones y Transportes. Coordinación General de Puertos y Marina Mercante. *Los Puertos Mexicanos en Cifras 1990-1996*. (Mexico City, D.F.: 1997).

Top 20 U.S. Water Ports by Tonnage (Domestic and International): 1996

(Thousands of U.S. short tons)

Port name	Total	Domestic	International	Containerized shipments (as percent of total tonnage)	Number of vessel entrances/ clearances
South Louisiana, LA	189,800	106,000	83,800	NS	153,386
Houston, TX	148,200	61,100	87,100	4.0	122,329
New York, NY and NJ	131,600	75,100	56,500	12.6	228,526
New Orleans, LA	83,700	36,800	46,900	3.6	125,116
Baton Rouge, LA	81,000	45,200	35,800	NS	68,922
Corpus Christi, TX	80,500	23,800	56,600	NS	32,957
Valdez, AK	77,100	75,000	2,200	NS	3,186
Plaquemine, LA	66,900	46,200	20,700	NS	65,780
Long Beach, CA	58,400	22,400	36,000	35.0	56,465
Texas City, TX	56,400	21,100	35,300	NS	23,462
Pittsburgh, PA	50,900	50,900	-	NS	118,283
Mobile, AL	50,900	25,400	25,500	NS	47,943
Tampa, FL	49,300	32,500	16,800	NS	10,234
Norfolk Harbor, VA	49,300	10,400	38,900	15.0	32,064
Lake Charles, LA	49,100	19,700	29,400	NS	49,303
Los Angeles, CA	45,700	17,900	27,800	37.8	37,226
Baltimore, MD	43,600	14,000	29,600	8.7	34,208
Philadelphia, PA	41,900	13,000	28,900	2.6	25,185
Duluth-Superior, MN and WI	41,400	30,200	11,200	NS	2,400
Port Arthur, TX	37,200	6,500	30,700	NS	12,890
Subtotal-top 20 ports	1,322,800	623,400	699,400	6.0	1,249,865
Tonnage, total all U.S. water ports	2,284,100	1,100,700	1,183,400	NA	NA
Percent of tonnage of all U.S. water ports	57.9	56.6	59.1	6.0	NA

KEY: NA = Not applicable. NS = Not significant.

NOTE: Ports are ranked by total tonnage.

SOURCES

Tonnage: U.S. Army Corps of Engineers. *Waterborne Commerce of the United States, National Summaries, Part 5*. (New Orleans, LA: 1996).

Percent of containerized shipments: U.S. Army Corps of Engineers. Navigation Data Center. Special tabulation. (New Orleans, LA: 1998).

t a b l e 12-2

Vehicle-Miles by Mode

(Millions of vehicle miles)

	Canada			Mexico			United States		
	1990	1995	1996	1990	1995	1996	1990	1995	1996
Air	N	N	N	N	N	N	8,793	8,424	8,335
Air carriers	N	N	N	78	222	190	3,963	4,629	4,811
Road	N	^e197,055	N	N	N	N	2,144,400	2,422,700	2,482,200
Personal vehicles	N	^e 168,469	N	N	N	N	1,992,400	2,238,100	2,292,900
Passenger cars	N	^e 134,440	N	N	N	N	1,408,300	1,438,300	1,467,700
Motorcycles	N	^e 649	N	N	N	N	9,600	9,800	9,900
Light trucks	N	^e 33,380	N	N	N	N	574,600	790,000	815,300
Bus	887	1,042	996	N	N	N	5,700	6,400	6,500
Charter	62	84	97	N	N	N	N	N	N
Intercity	105	96	81	N	N	N	N	N	N
Local motor	478	461	445	N	N	N	2,130	2,184	2,165
School	242	401	373	N	N	N	N	N	N
Commercial freight vehicles	N	^e 27,545	N	N	N	N	146,200	178,200	182,800
Single-unit trucks	N	N	N	N	N	N	51,900	62,700	64,000
Tractor	N	N	N	N	N	N	94,300	115,500	118,800
Rail, train-miles	78	87	84	30	24	25	413	490	499
Freight	63	74	70	17	15	16	380	458	469
Intercity passenger	15	13	13	13	9	9	33	32	30
Transit	N	N	N	U	U	U	3,242	3,550	^P3,663
Transit rail	N	N	N	U	U	U	774	810	822

KEY: e = Data are estimated. N = Data are nonexistent. p = Data are preliminary. U = Data are unavailable.

NOTES

Canada

Road, all data except bus: The number of total road vehicle kilometers for 1995 is an estimate. See Appendix B for explanation.

Bus: All bus data are from a sample of Canadian companies engaged in scheduled intercity bus, urban transit, school bus and charter and other types of bus service from Statistics Canada's annual *Survey of the Passenger Bus and Urban Transit Industry*.

Transit: Although vehicle kilometers for transit rail are nonexistent, vehicle kilometers for local motor bus are included under road, buses.

Mexico

Air: Includes only kilometers traveled by domestic airlines under scheduled operations serving domestic and international flights.

Road: Although no data are collected for vehicle travel on all Mexican roads, the Mexican Institute of Transport (IMT) estimates that the total vehicle-kilometers for all types of passenger cars, trucks and buses using the main interurban road corridors (of which there are 10) is approximately 36 billion vehicle kilometers per year. Main interurban road corridors comprise 25,190 kilometers or approximately 5 percent of the Mexican national highway network. For additional information on main interurban road corridors and Mexico's national road network, see the Secretaría de Comunicaciones y Transportes (SCT) report, *Modernization of the Main Highway System* (Mexico City, D.F.: 1998.)

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t a b l e 12-2**Vehicle-Miles by Mode**—*Continued***Mexico**

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